

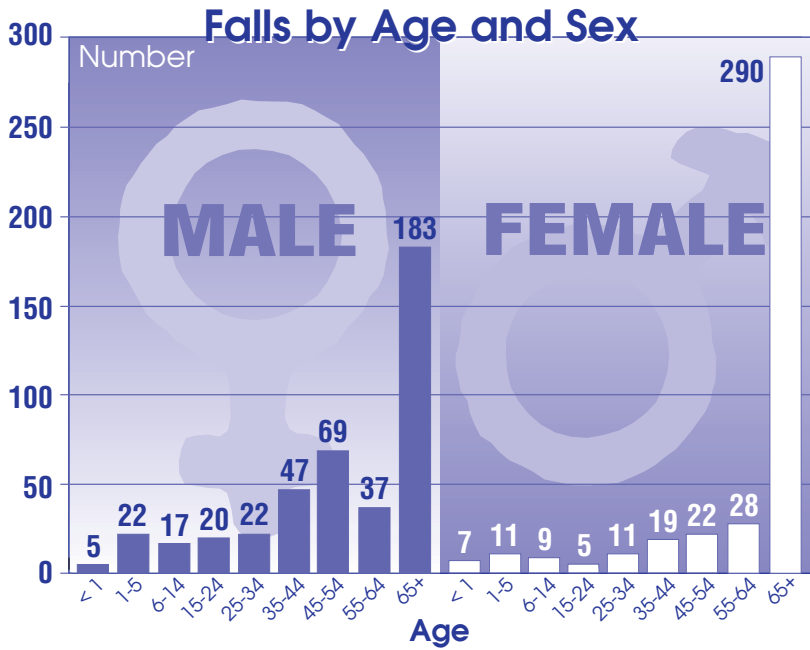
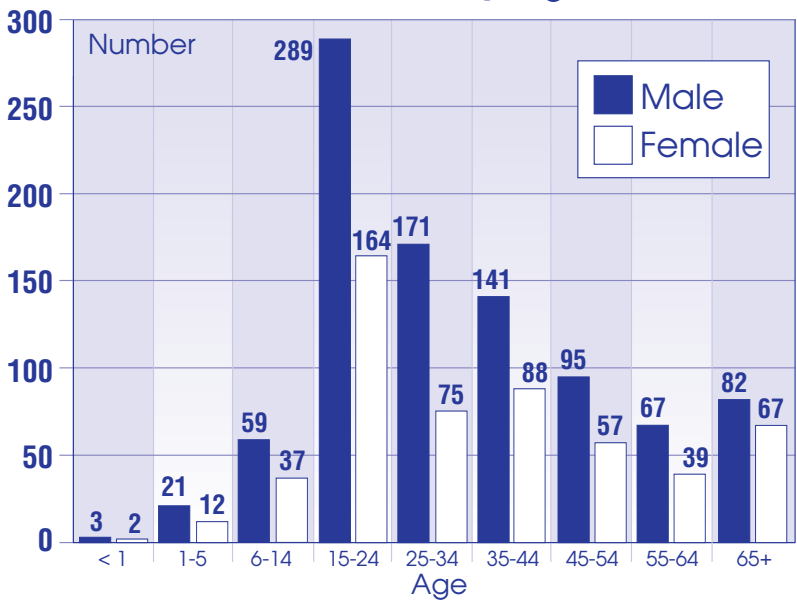
Females are less likely than males to suffer a fall related head injury for all age groups greater than 1 through age 64. Of the total traumatic brain injuries due to falls, 57.4 percent were from the age group 65 years old and older. Of the 402 females who suffered a head injury due to a fall, 72.1 percent were 65 years old or older, compared to 43.4 percent of the 422 males.

Approximately 2.7 percent of the accidental falls causing a head injury were work related.

Of the 928 males who were involved in a motor vehicle accident, 31.1 percent were ages 15 to 24 years compared to 18.4 percent in ages 25 to 34 years. These two age groups accounted for over half of the total motor vehicle injuries. For both males and females, there were more injuries (30.8 percent) in the 15 to 24 year age group than any other group.

Less than 1 percent of the total motor vehicle accidents was work related. Of the total head injuries from motor vehicle traffic accidents, 8.3 percent resulted in a severe brain injury; 28.5 percent was classified as moderate; 39.8 percent was classified as mild; and the severity for 23.5 percent was undetermined.

Motor Vehicle Crashes by Age and Sex



When all cases were included, 29.6 percent of the individuals with severe brain injuries were hospitalized more than seven days, compared to 32.6 percent of the individuals with injuries considered to be moderate, and 14.2 percent for those with mild injuries. For cases where severity was undetermined, 19.6 percent were hospitalized more than seven days.

When individuals who died are excluded from the analysis, 90.2 percent of people with severe brain injuries were hospitalized more than seven days, while the percent of individuals with lesser injuries showed little change.

Approximately 52 percent of the cases with hospital stays of more than 7 days were considered to have moderate brain injuries.

The length of stay could be affected by other injuries that occurred during the accident. The severity index by itself should not be used as a predictor or indicator of length of stay.

Severity of Injury by Length of Stay										
Length of Stay	Total	Died	Severe		Moderate		Mild		Undetermined	
			Total	Died	Total	Died	Total	Died	Total	Died
Less than 24 hrs.	102	102	67	67	11	11	5	5	19	19
1 Day	567	68	48	47	132	15	258	2	129	4
2 Days	480	18	10	8	143	7	214	1	113	2
3 Days	337	15	11	10	113	3	135	1	78	1
4 Days	263	12	10	9	108	2	87	1	58	0
5 Days	206	8	2	2	86	4	80	2	38	0
6 Days	138	9	5	5	72	3	41	0	20	1
7 Days	126	10	4	3	70	4	28	1	24	2
8 to 14 Days	367	27	16	6	185	12	92	4	74	5
15 to 21 Days	137	12	21	3	79	8	19	0	18	1
22 to 28 Days	63	7	11	1	36	5	8	1	8	0
29 Days or more	112	3	18	1	56	1	21	1	17	0
TOTAL	2898	291	223	162	1091	75	988	19	596	35

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# Tennessee Traumatic Brain Injury

2002  
January - June

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Tennessee Department of Health  
Bureau of Health Informatics  
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# Introduction

The enabling legislation establishing the traumatic brain injury registry was signed into law in May, 1993. As written, the initial legislation prohibited health care providers from reporting case information without written consent of the patient. An amendment was passed in May, 1996 resolving this issue. Data collection officially began with patients discharged during 1996. The hospitals report information on inpatients, with specific ICD-9 CM diagnosis codes, whose admission and discharge dates are different (where length of stay was 24 hours or more) and for those individuals who died. Patients seen in emergency rooms who were sent home the same day or length of stay was less than 24 hours are not included in the registry.

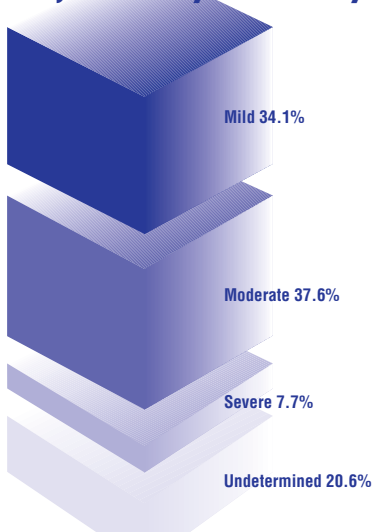
A traumatic brain injury is defined as an acquired injury to the brain caused by an external physical force that may result in total or partial disability or impairment.

Based on the ICD-9-CM diagnosis codes, 34.1 percent of all patients experienced a “mild” injury. The injuries considered “moderate” made up 37.6 percent while 7.7 percent were considered “severe”. Five hundred ninety-six (596) cases, or 20.6 percent had an insufficient clinical description and the severity for these cases was undetermined.

The severity index is based on the clinical diagnosis of the injury.

Approximately 76 percent of the patients (excluding the patients that died) were discharged for home care requiring self-care or non-skilled or some degree of skilled assistance. This indicates a tremendous burden on the families and communities of the brain injured survivors.

## Injuries by Severity



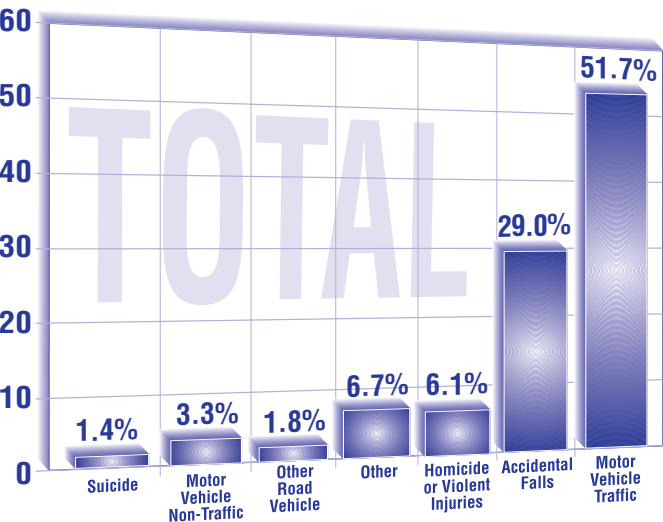
Approximately 73 percent of the patients with a severe traumatic brain injury died. This category represents 55.7 percent of the total patients that died.

For patients with a moderate brain injury (excluding deaths) 67.3 percent were discharged for home care requiring self-care or non-skilled or some degree of skilled assistance. Those discharged to residential facilities with or without skilled nursing services accounted for 11.5 percent and 11.9 percent were discharged to an inpatient rehabilitation facility.

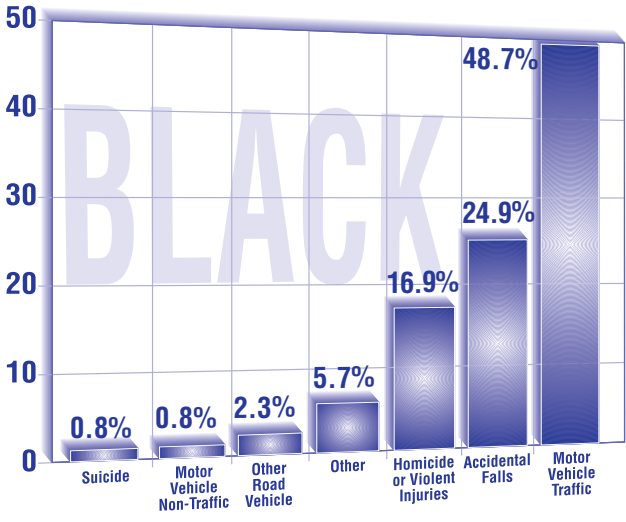
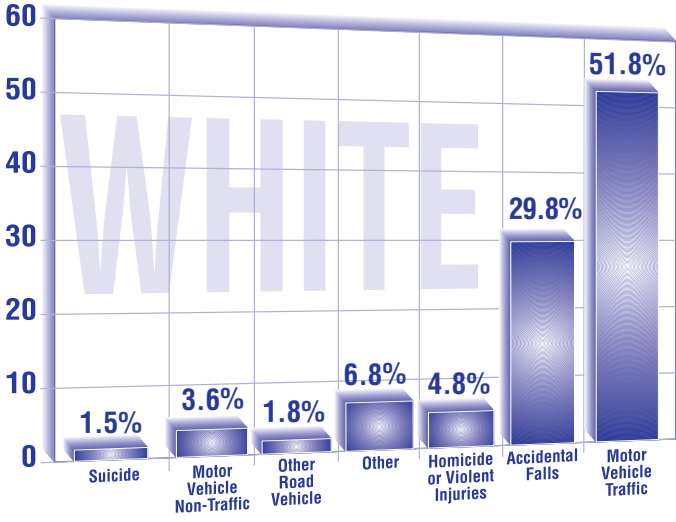
Excluding deaths, 86.0 percent of the patients with a mild brain injury were discharged to home care requiring self-care or non-skilled or some degree of skilled assistance.

Hospital Discharge Status by Severity of Injury					
Discharge Status	Total	Severe	Moderate	Mild	Undetermined
Transferred to acute care hospital	56	7	29	14	6
Home - self care	1,712	9	575	715	413
Home - requiring non-skilled assistance	166	1	63	95	7
Home health services or out patient rehab	95	2	46	23	24
Residential facility w/o skilled nursing	34	0	23	3	8
Residential facility with skilled nursing	181	17	94	41	29
Inpatient rehab facility	239	24	121	41	53
Patient died (may be due to other injuries)	291	162	75	19	35
Other	124	1	65	37	21
Total	2,898	223	1091	988	596

An external cause of injury permits the classification of environmental events, circumstances, and the conditions as the cause of injury. An external cause of injury was reported for 98.0 percent (2,841) of the 2,898 persons treated in Tennessee. The data presented by race represents 2,457 white and 261 black cases.



The leading cause of traumatic brain injuries, 51.7 percent (includes only cases with external cause of injury reported) was motor vehicle traffic accidents. Accidental falls accounted for 29.0 percent and other accidents accounted for 6.7 percent of the total injuries. Homicide or violent deaths accounted for 6.1 percent.



For all ages except 65 and older and less than 1 year, males are more likely to suffer a head injury than females. This is primarily due to traffic accidents. At age 65 and older, females experience more injuries due to falls. Further analysis of the data revealed that 27.0 percent of the (37) patients less than one year of age suffered a brain injury due to homicide or an injury purposely inflicted by other persons.

## Injuries by Age and Sex

